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10/069,001	02/20/2002	Yuji Sawada	0992-0127P	4536

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EXAMINER

ALEJANDRO, RAYMOND

ART UNIT	PAPER NUMBER
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1745

DATE MAILED: 07/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/069,001

Applicant(s)

SAWADA ET AL.

Examiner

Raymond Alejandro

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 June 2005 & 05/09/05.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 5, 8, 9, 14, 16 and 25-27 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1, 5, 8, 9, 14, 16 and 25-27 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

This office action is being submitted in reply to the amendments filed on 05/09/05 and 06/20/05. The applicants have overcome the 35 USC 103 rejection. Refer to the aforementioned amendment for specific details on applicant's rebuttal arguments. However, the present claims are again rejected over newly discovered art as set forth infra. Therefore, the current application is finally rejected for the reasons of record:

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1 and 5 are rejected under 35 U.S.C. 102(e) as being anticipated by Nonaka et al 2002/0138958.

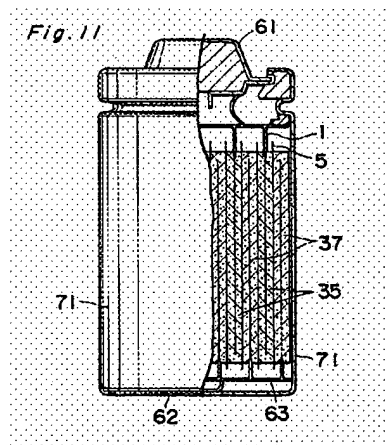
The present application is directed to a laminate for sealing a battery electrolyte or electrode wherein the disclosed inventive concept comprises the specific laminate structure.

Nonaka et al disclose a lithium ion secondary battery as shown in Figure 11 comprising a positive electrode 35, a negative electrode 37 and a film separator 5 for separating both electrodes 35 and 37 (SECTION 0015). It is further disclosed that a porous polypropylene film is used as the separator (SECTION 0035); and in conventional lithium secondary batteries,

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aluminum foil is formed with natural oxide films on its surface so that thin isolating film have often been formed in the interface therebetween (*the inert protective or passive film formed by oxidative of said metal*) (SECTION 0015).

Figure 11 below illustrates the battery comprising at least a negative electrode 37 and a film separator 5 and forming a laminate structure (*←emphasis added*). Thus, Nonoka et al directly embodies a laminate layered-structure including a polyolefin film (the separator film) in contact with an aluminum foil which has thereon a natural oxide film. Accordingly, Nonoka et al also provide the necessary structural interrelationship to meet the claimed requirement of a metal layer having a surface-treated layer formed thereon which is an inert protective layer or passive film; and a layer of a polyolefin formed over the surface treated layer.



1st Examiner's note: as to the specific preamble reciting "a laminate for sealing an electrolyte or protecting an electrode of a battery", it is pointed out that the preamble still refers to intended use. That is, the claim is directed to a laminate structure per se and the foregoing preamble phrase is only a statement of ultimate intended utility.

Thus, the claims are anticipated.

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Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 1 is rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over the Japanese publication 54-99972 (hereinafter referred to as “the JP’972 publication”).

The JP’972 publication discloses a printed circuit board forming an insulating layer on a grafted polyolefin film (TITLE). In particular, it is disclose that an inert layer is formed on the surface of a grafted polyolefin film which is thereafter immersed in a metal plating solution to form a metal plating layer thereon (ABSTRACT). *Thus, the JP’972 publication at once envisages a laminate layered-structure including a polyolefin film having deposited thereon an inert layer and a metal plating layer over both layers. Accordingly, the JP’792 publication provide the necessary structural interrelationship to meet the claimed requirement of a metal layer having a surface-treated layer formed thereon which is an inert protective layer; and a layer of a polyolefin formed over the surface treated layer.*

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1st Examiner's note: as to the specific preamble reciting "a laminate for sealing an electrolyte or protecting an electrode of a battery", it is pointed out that the preamble still refers to intended use. That is, the claim is directed to a laminate structure per se and the foregoing preamble phrase is only a statement of ultimate intended utility.

*2nd Examiner's note: the limitation "formed by oxidative or acid treatment of said metal layer" is being construed as product-by-process limitation and therefore, it is contended that the product itself does not depend on the process of making it. Accordingly, in a product-by-process claim, the patentability of a product does not depend on its method of production. (**emphasis added** →) Having shown that the prior art of record comprises the same laminate structure (i.e. the metal layer, the surface treated layer, and the polyolefin layer in the same structural arrangement), it is further noted that the product in the instant claims is the same as or obvious over the product of the prior art.*

Therefore, the claims are anticipated by the JP'972 publication. However, if the claims are not anticipated the claims are obvious as it has been held similar products claimed in product-by-process limitations are obvious In re Brown 173 USPQ 685 and In re Fessman 180 USPQ 324 (Refer to MPEP 2113: Product-by-Process Claims).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

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having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. Claims 1, 5, 8-9, 14, 16 and 25-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over the Japanese document JP 11-086808 (herein called "*the JP '808 document*") in view Nonaka et al 2002/0138958.

The present application is directed to a laminate for sealing a battery electrolyte or electrode wherein the disclosed inventive concept comprises the specific laminate structure.

With reference to claims 1, 14 and 16:

The JP'808 document discloses a sealing bag for nonaqueous electrolyte battery, the sealing bag seals the positive and negative electrodes and the electrolyte (Title/Abstract). *Thus, the layered sealing bag meets the requirement of being a seal film for sealing a battery component such as an electrolyte or an electrode.*

1st Examiner's note: *as to the specific preamble reciting "for use as a seal film for sealing an electrolyte of a battery or as a protective film for protecting an electrode of a battery", it is pointed out that the preamble refers to intended use. That is, the claim is directed*

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to a laminate *per se* and the foregoing preamble phrase is only a statement of ultimate intended utility.

2nd Examiner's note: the limitation "an oxidatively or chemically surface-treated metal layer" is being construed as product-by-process limitation and therefore, it is contended that the product itself does not depend on the process of making it. Accordingly, in a product-by-process claim, the patentability of a product does not depend on its method of production. In that, it is further noted that the product in the instant claims is the same as or obvious over the product of the prior art.

It is disclosed that the sealing bag is formed with a material stuck together with plastic layers inserted with a metal layer such as aluminum foil and a metal deposition layer, a PET film is stuck thereto and a thermoplastic resin such as polyethylene is also stuck thereto (Abstract/Solution). **Figure 3** below illustrates the specific layered structure of the sealing feature, particularly, the Al foil 9, the plastic layers 11 and the heat seal layers 10.

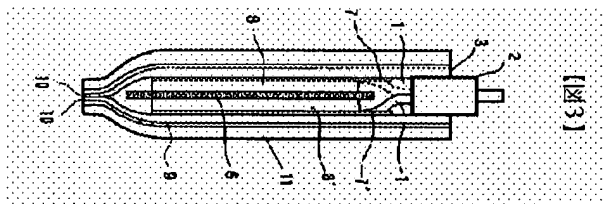


TABLE 1 below shows the specific constitution of sealing bag including: the PET layer, an urethane adhesive, the Al foil, the acid-modified LDPE, and the heat seal layers Y and Z.

【表1】 封入袋のシート構成

PET	(12 μ m)
ウレタン系接着剤	(5 μ m)
アルミ箔	(8 μ m)
酸変成LDPE	(20 μ m)
ヒートシール層Y	(30 μ m)
ヒートシール層Z	(30 μ m)

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With respect to the surface treated layer: the JP'808 document also discloses that the sealing bag 3 preferably comprises a laminated material comprising a substrate having a metallic vapor deposition layer sandwiched between plastic layers 10 and 11 (SECTIONS 0010-0015).

Thus, the substrate itself having the metallic vapor deposition layer acts as the surface-treated layer over the substrate surface. Furthermore, it is also disclosed that the plastic film 11 and the metallic foil layer 9 are adhered to each other by using adhesive, such as urethane, epoxy and polyester resins (SECTIONS 0010-0015). *Hence, the foregoing adhesive layer, to some extent, chemically treat the surface of the Al foil or the metallic layer.*

With respect to the layer of an adhesive resin: it is disclosed that the acid-modified LDPE is an acid-modified polyolefin being modified by a carboxylic acid (SECTIONS 0010-0015).

As to claim 5:

The JP'808 document discloses the metal layer is made of aluminum foil (ABSTRACT/SOULTION).

On the matter of claims 8-9:

It is disclosed that resin composition used for a plastic layer is mainly made of acid-denatured polyethylene or acid-denatured polypropylene (ABSTRACT/SOLUTION). It is disclosed that the acid-modified LDPE is an acid-modified polyolefin being modified by a carboxylic acid (SECTIONS 0010-0015).

The JP'808 document discloses a layered laminate made of a seal film according to the foregoing aspects. However, the JP'808 does not expressly disclose the specific chemically surface-treated layer.

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As to claims 1, 25-27:

Nonaka et al discloses a passive film may be formed on a metallic surface per se wherein a metal material is oxidized in an oxidative atmosphere (SECTION 0085). It is also disclosed that a metal material can be anodized using anodic oxidation thereof (SECTION 0085). Additionally, it is taught that in conventional lithium secondary batteries, aluminum foil is formed with natural oxide films on its surface so that thin isolating film have often been formed in the interface therebetween (*the inert protective or passive film formed by oxidative of said metal*) (SECTION 0015).

Examiner's note: additionally, as to the limitation, "an oxidatively or chemically surface-treated metal layer", it is noted that a method limitation incorporated into a product claim does not patentable distinguish the product because what is given patentably consideration is the product itself and not the manner in which the product was made. Therefore, the patentability of a product is independent of how it was made. This is to address the limitations reciting the specific chemical treatment material/technique: even though the such limitation may impart, somehow, a different structure (the one formed by the specific surface-treated layer), it is noted that as long as the surface thereon is chemically or oxidatively treated, the present claims satisfy the intended invention of having a chemical-oxidative surface treated layer. Thus, the chemically/oxidatively surface treated layer is formed thereon regardless of the specific chemical treatment material or technique.

In view of the above, it would have been obvious to one skilled in the art at the time the invention was made to use the specific chemically surface-treated layer of Nonaka et al in the layered seal-forming laminate of the JP'808 document as Nonaka et al discloses that in

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conventional secondary batteries, natural oxide films are formed on the surfaces of metallic components its surface to obtain a thin isolating film in the interface. Thus, Nonaka et al clearly envisions the formation of natural oxide films on metal surfaces to protect the metal surfaces per se. *In consequence, Nonaka et al directly teaches the advantage of using the specific chemically surface-treated layer as instantly claimed. Moreover, it has been held that re-arrangement, reversal or duplication of parts is obvious. Succinctly stated, fact that a claimed feature is structurally re-arranged, reversed or duplicated is not sufficient by itself to patentably distinguish over an otherwise old feature unless there are new or unexpected results as it is a matter of choice which a person of ordinary skill in the art would have found obvious absent persuasive evidence that the particular configuration of the claimed layered laminate was significant. In re Japikse 86 USPQ 70. In re Gazda 104 USPQ 400. In re Harza 124 USPQ 378.*

Response to Arguments

9. Applicant's arguments with respect to the foregoing claims have been considered but are moot in view of the new ground(s) of rejection.

10. Although believed unnecessary due to the new grounds of rejection, the examiner likes to maintain his previous response to argument regarding product-by-process limitations for the reasons of record.

11. The principal contention of applicants' arguments is premised on the assertion that the prior art of record does not disclose/involve "*the use of an oxidatively or chemically surface-treated metal as required by applicants' claimed invention*". However, this assertion is still insufficient to overcome the rejection. First of all, the rejected claims have been now construed as being directed to a product-by-process recitation. In this regard, although applicants are

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entitled to define a product by using process/method limitations, what is given patentably consideration is the product itself and not the manner in which the product was made. In this case, the **combined** prior art teaches the specific structural arrangement of the laminate. In consequence, the references are teaching substantially the same product and constituents as the product made by the product-by-process limitation of the instant claims. Therefore, the patentability of a product is independent of how it was made. However, there may be situations when the manner in which a product was made should be given consideration. Thus, burden is on applicants to show differences in product-by-process claims as well as in product comparisons. Further, even though the prior art may fail to disclose other physical properties, in view of the substantially similar products being disclosed in the instant application, the examiner has a reasonable basis to suspect that the claimed product and the combined prior art's layered structure would be substantially the same. Since PTO does not have proper equipment to carry out the analytical tests, the burden is then shifted to applicants to provide objective evidence demonstrating the claimed product is necessarily different from the prior art's product, and that the difference is unobvious (*Refer to MPEP 2113: Product-by-Process Claims*). Accordingly, applicants have not provided yet objective or factual evidence such as unexpected results and/or a structure comparison to show how the present claims patentably differentiate from the applied-combined prior art. In the event applicants further argue that "an oxidatively or chemically surface-treated metal layer" is structurally different, it is contended that applicants have failed to state how the implied manufacturing process steps would be expected to impart distinctive structural characteristics to the final product. See, e.g., *In re Garnero*, 412 F.2d 276, 279, 162 USPQ 221, 223.

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Conclusion

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Raymond Alejandro whose telephone number is (571) 272-1282. The examiner can normally be reached on Monday-Thursday (8:00 am - 6:30 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick J. Ryan can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Raymond Alejandro
Primary Examiner
Art Unit 1745


RAYMOND ALEJANDRO
PRIMARY EXAMINER